

Appl. No. 10/017,252  
Restriction Requirement dated September 7, 2006  
Reply to Restriction dated August 7, 2006

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### Remarks/Arguments

a. In the Office Action dated August 7, 2006, the Examiner indicated that the pending claims are subject to restriction to one of the following inventions under 35 U.S.C. 121. The identified inventions are:

- I) Claims 1-11, drawn to a semiconductor signal manipulating device, classified in class 455, subclass 333.
- II) Claims 12-20, drawn to an RF signal control device for converting RF signal to IF signal, classified in class 455, subclass 323.
- III) Claims 21 and 22, drawn to a method of mixing an applied current, wherein the current are channeled by potential wells, classified in class 455, subclass 23.

In view of the comments below, Applicant respectfully requests that the Examiner reconsider the present application and withdraw the restriction / election requirement regarding the pending claims.

b. Pursuant to the requirement under 37 CFR §1.143, Applicant provisionally elects (elects with traverse) the invention defined by claims 1 - 11 and requests reconsideration / withdrawal of the restriction requirement pursuant to the provisions of that section. Applicant respectfully submits that even if *arguendo* claims 1-22 define distinct inventions there is no undue burden on the Examiner under the circumstances and thus the minimum requirements for a proper restriction have not been satisfied.

c. The present application concerns a semiconductor apparatus and corresponding methods for controlling or manipulating a signal. The application discloses and claims various

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embodiments of the invention, such as semiconductor signal manipulating device (claims 1-11),  
an RF signal control device (claims 12-20) and a method of mixing signal (21-22).

d. The Examiner has concluded that the various embodiments discussed and as claimed are patentably distinct inventions and issued a restriction requirement in accordance with 35 U.S.C. §121 ("If two or more independent and distinct inventions are claimed in one application, the Director may require the application to be restricted to one of the inventions") requiring that Applicant make at least a provisional election of the inventions defined by claims 1-11, claims 12-20, or claims 21-22. Applicant has complied (electing with traverse claims 1-11) with these requirements in accordance with 37 CFR §1.143 at paragraph b above.

e. Applicant respectfully disagrees with the Examiner's issuance of a restriction requirement. Applicant notes that 37 CFR 1.142 allows a requirement for restriction to be made at any time before a final action. Even though issuing a restriction requirement under these circumstances is not forbidden, the Examiner must still satisfy the minimum criteria for restriction of invention as outlined in the MPEP. Applicant further respectfully notes that MPEP §803 minimally requires that in order for a restriction to be proper not only must the inventions be independent or distinct, but also there must be a serious burden on the Examiner. Specifically in relevant part, MPEP §803 states:

"If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions."

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Even if *arguendo* the separate groupings of the claims represent separate inventions, continued prosecution of the entire application is entirely appropriate, given the present circumstances and a failure of the Examiner to show or support the necessary assertions of undue (serious) burden, which is required to issue and maintain a proper restriction requirement.

While the Examiner alleges that the inventions as grouped above require different fields of search, Applicant respectfully submits that any search for the respective elements of claims 1-11 will necessarily result in finding the relevant art for claims 12-20 and 21-22. Basically the inventions defined by claims 12-22 are variations of the invention defined by claims 1-11. All claims necessarily deal with a semiconductor structure. Additionally and for example, claim 6 recites an RF signal as the input signal (see claim 1) and the first element of claim 12 is an RF input signal. The second element of claim 12 (plurality of polysilicon ... ) is recited in varying scope by claims 2 and 3. The third element of claim 12 (a differential voltage ... ) is recited in varying scope by claims 3, 4 and the last element of claim 12 is recited in varying scope by claims 7, 8. Since the Examiner is responsible for searching for all features of claims 1-11 and applying the resultant art on the merits, there is no incremental serious burden associated with the search as a search of the art for the features of claim 1-11 will also find relevant art for claims 12-22.

Applicant respectfully submits that continuing prosecution on the merits for the entire set of claims is not an incrementally serious burden. Thus in view of the complete lack of or any showing of or reasoned support for some serious burden, Applicant respectfully submits that the restriction requirement in this instance is clearly improper.

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Given the absence of serious incremental burden and that the inventions of the separate claims are variations of other claims, Applicant requests that the Examiner reconsider and withdraw this restriction requirement and continue the examination of the application and pending claims 1-22 on the merits.

Although it is not anticipated that any fees are due or payable, the Commissioner is hereby authorized to charge any fees that may be required to Deposit Account No. 50-3435.

Respectfully submitted,

  
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